YAMAHA

YFM90RY

ASSEMBLY MANUAL

LIT-11666-22-13 43D-F8107-10

EBA00002

FOREWORD

This Assembly Manual contains the information required for the correct assembly of this Yamaha machine prior to delivery to the customer. Since some external parts of the machine have been removed at the Yamaha factory for the convenience of packing, assembly by the Yamaha dealer is required. It should be noted that the assembled machine should be thoroughly cleaned, checked, and adjusted prior to delivery to the customer.

EBA00003

IMPORTANT

The service specifications given in this assembly manual are based on the model as manufactured. Modifications and significant changes in specifications and/or procedures will be forwarded to authorized Yamaha dealers.
The procedures below are described in the order that the procedures are carried out correctly and completely. Failure to do so can result in poor performance and possible harm to the machine and/or rider.

CONCERNING CRATE DAMAGE:
Follow the instructions in the Dealer Warranty Handbook, Procedure Section.

Particularly important information is distinguished in this manual by the following notations:

⚠	**This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**
⚠ WARNING	**A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.**
NOTICE	**A NOTICE indicates special precautions that must be taken to avoid damage to the vehicle or other property.**
TIP	A TIP provides key information to make procedures easier or clearer.

* Product and specifications are subject to change without notice.

YFM90RY
ASSEMBLY MANUAL
©2008 by Yamaha Motor Corporation, U.S.A.
1st edition, July 2008
All rights reserved.
Any reprinting or unauthorized use without the written permission of Yamaha Motor Corporation, U.S.A. is expressly prohibited.
Printed in U.S.A.
P/N LIT-11666-22-13

EBA01001

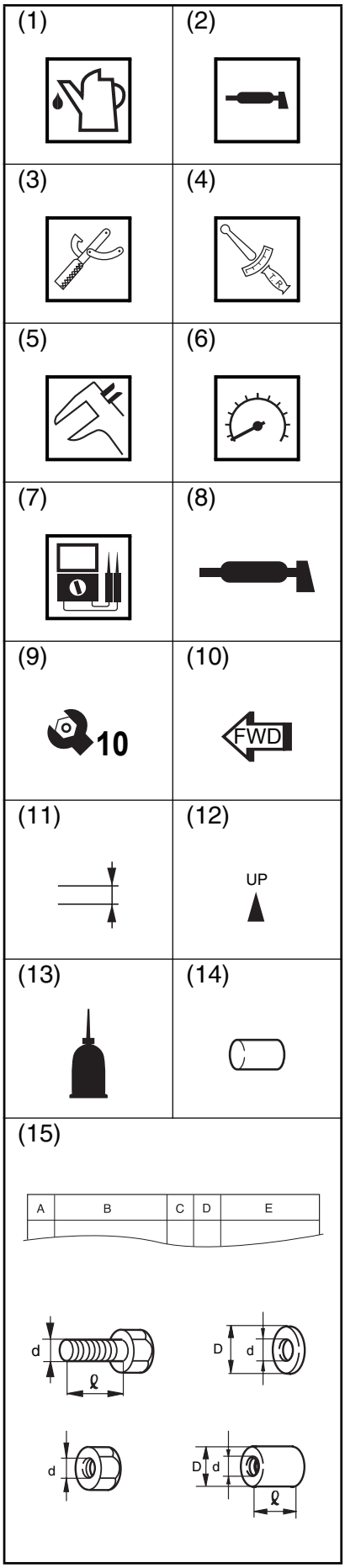
SYMBOLS USED IN THE ASSEMBLY MANUAL

In order to simplify descriptions in this assembly manual, the following symbols are used:

(1): Filling fluid
(2): Lubricant
(3): Special tool
(4): Tightening torque
(5): Wear limit, clearance
(6): Engine speed
(7): Electrical data
(8): Coat with lithium-soap-based grease.
(9): Tighten to 10 Nm.
(10 Nm = 1.0 m · kg, 7.2 ft · lb)
(10): Towards the front of the machine
(11): Clearance required
(12): Install so that the arrow mark faces upward.
(13): Apply motor oil.
(14): Made of rubber or plastics
(15):

- A: Ref. No. (indicating the order of operations.)
- B: Part name
- C: Quantity of parts per machine
- D: Place where parts are held
  - (1): Refer to “PARTS LOCATION”.
  - V: Stored in plastic bag
  - C: Stored in carton box
  - S: Fixed inside the steel frame and/or contained in the Styrofoam tray (upper or lower)
  - ∗: Temporarily installed or secured

  Example:
  (1)-V
  (1) signifies the location of the parts and V signifies that the part is stored in a plastic bag.
- E: Size or material of parts
  d/D: Diameter of part
  ℓ: Length of part
  e.g., 5 = 5 mm (0.2 in)



EBA00006

PREPARATION

To assemble the vehicle correctly, supplies (e.g. oils, greases, and shop rags) and sufficient working space are required.

Workshop

The workshop where the vehicle is assembled should be clean, spacious, and have a level floor.

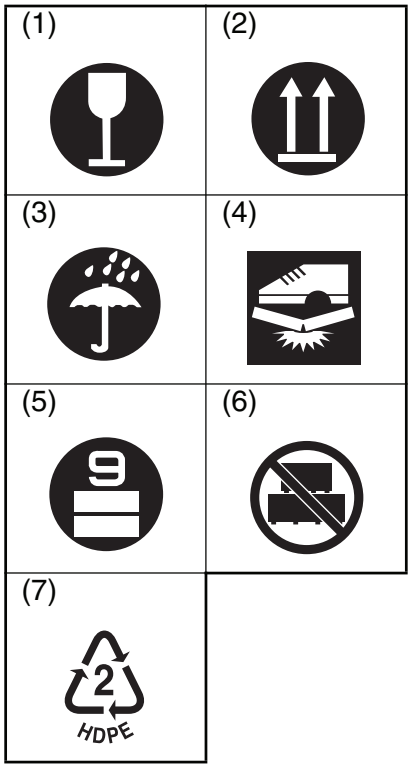
Self-protection

Protect your eyes with suitable safety glasses or goggles when using compressed air, when grinding or when doing any operation which may cause particles to fly off.

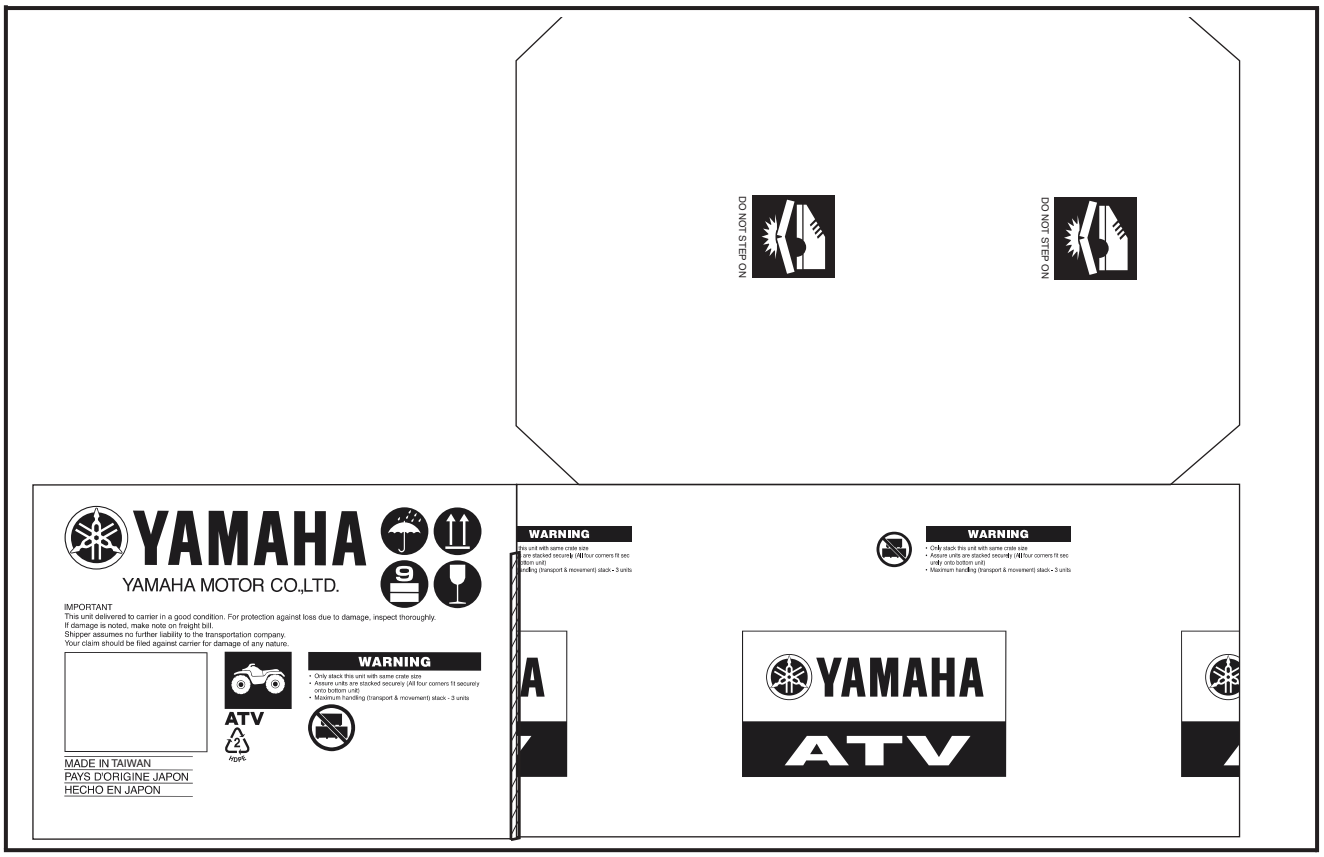
Protect hands and feet by wearing safety gloves and shoes.

EBA00007

SYMBOLS USED ON TRANSPORT PACKAGE BAG

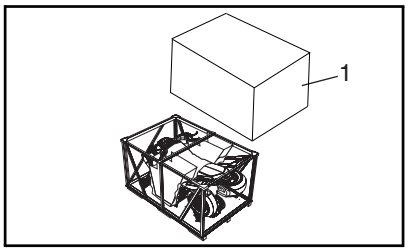


(1) Contents of the transport package are fragile, therefore the package must be handled with care.
(2) Indicates correct upright position of the transport package.
(3) Transport package must be kept away from rain.
(4) Do not step anywhere on the transport package.
(5) Up to 9 of the transport packages can be piled up.
(6) Only stack this unit with transport packages of the same size.
(7) Made of high-density polyethylene.

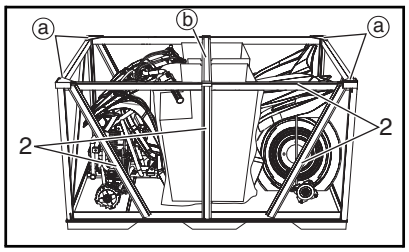

DO NOT STEP ON
DO NOT STEP ON
YAMAHA
YAMAHA MOTOR CO.,LTD.
IMPORTANT
This unit delivered to carrier in a good condition. For protection against loss due to damage, inspect thoroughly.
If damage is noted, make note on freight bill.
Shipper assumes no further liability to the transportation company.
Your claim should be filed against carrier for damage of any nature.
WARNING
• Only stack this unit with same crate size
• Assure units are stacked securely (All four corners fit securely onto bottom unit)
• Maximum handling (transport & movement) stack - 3 units
ATV
2
HDPE
MADE IN TAIWAN
PAYS D'ORIGINE JAPON
HECHO EN JAPON
WARNING
• Only stack this unit with same crate size
• Assure units are stacked securely (All four corners fit sec
unity onto bottom unit)
• Maximum handling (transport & movement) stack - 3 units
YAMAHA
ATV

EBA00008

UNPACKING



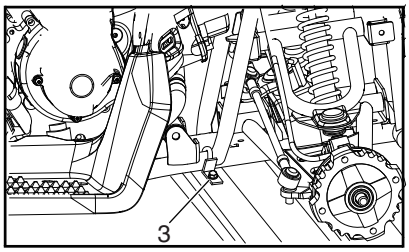
1. Remove the dustproof bag (1).



2. Remove the packing frames (2). (Lift up and then move to the side.)

TIP

Remove the plates (ⓐ and ⓑ) while holding the frame.



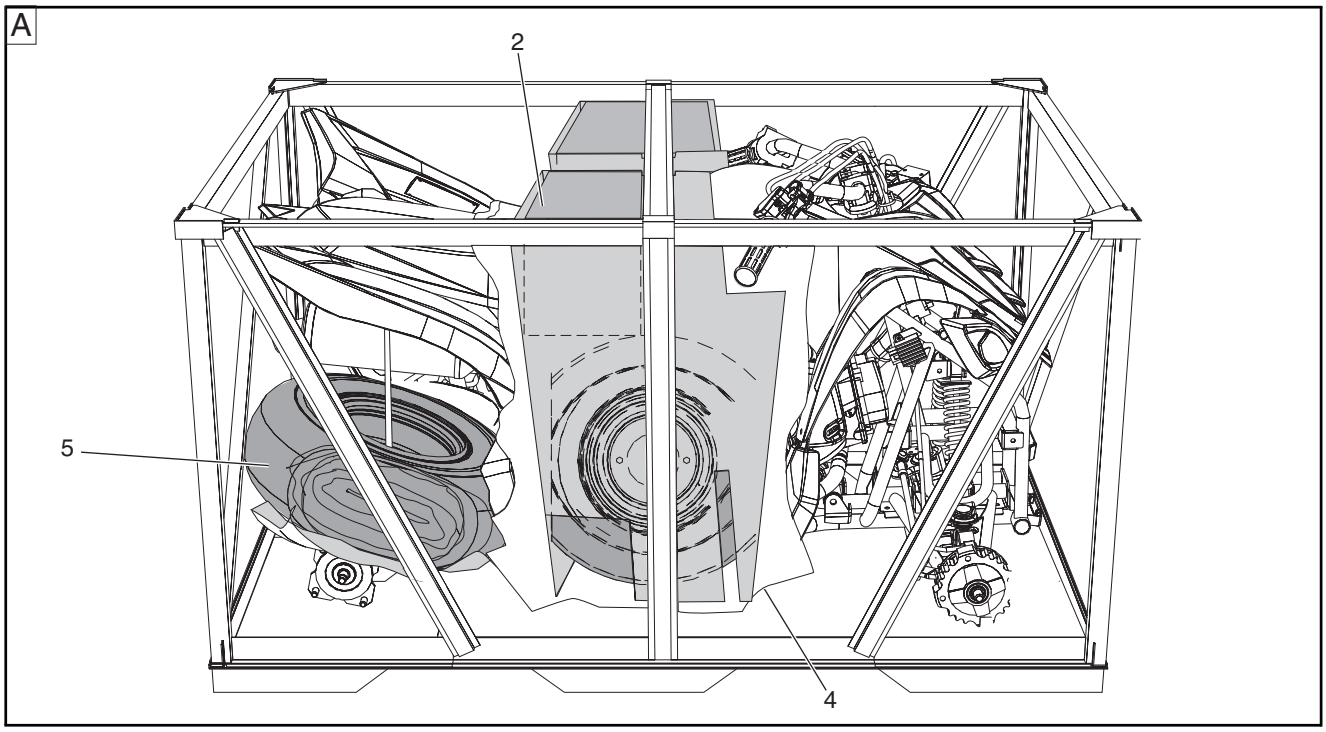
3. Remove the bolt (3) (frame).

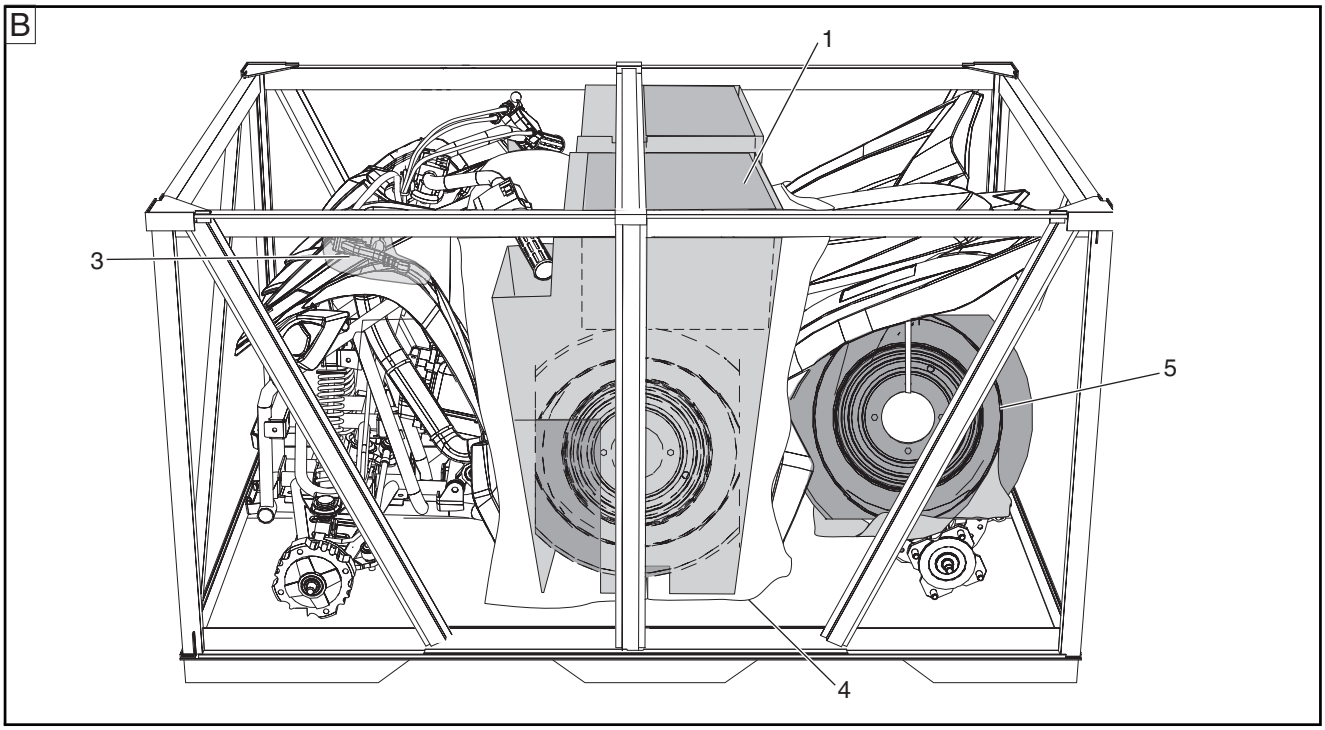
EBA00009

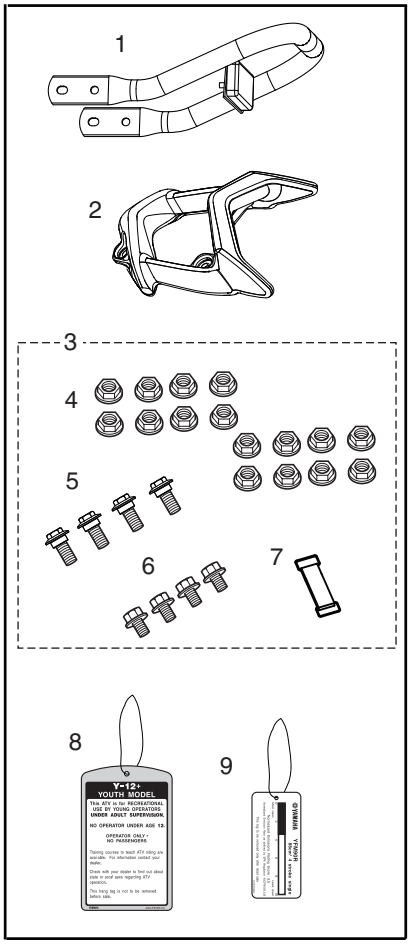
PARTS LOCATION

(1) Carton box 1
(2) Carton box 2
(3) Bubble wrap pack 1
(4) Rear wheels
(5) Front wheels

(A) Right view
(B) Left view



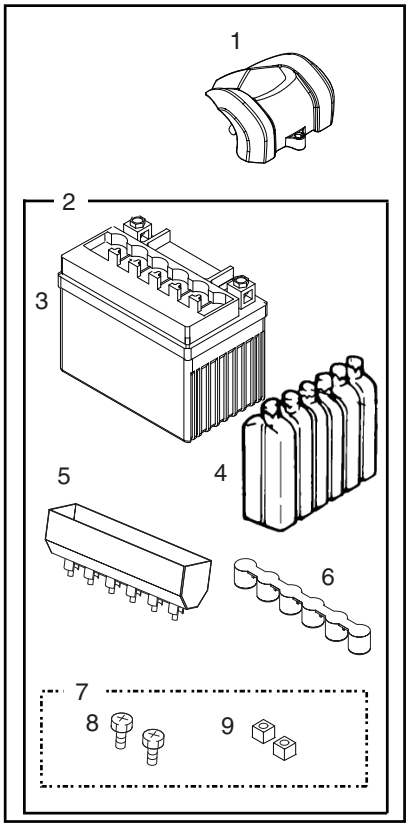




EBA00010

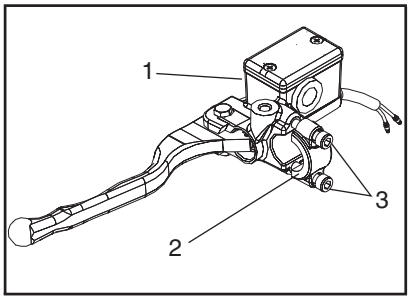
(1) Carton box 1

1. Rear carrier bar
2. Front bumper
3. Plastic bag
4. Flange nuts (front and rear wheels) [d = 10 (0.39)]
5. Flange bolts (front bumper) [d = 8 (0.31), ℓ = 18 (0.71)]
6. Flange bolts (rear carrier bar) [d = 8 (0.31), ℓ = 12 (0.47)]
7. Band (battery)
8. Tag warning
9. Tag NER (normalized Emissions Rating)



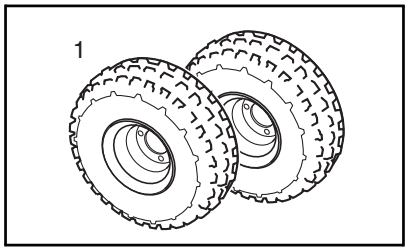
(2) Carton box 2

1. Handlebar cover
2. Battery box
3. Battery
4. Electrolyte
5. Filling funnel
6. Strip of caps
7. Plastic bag
8. Bolts (battery) [d = 5 (0.20), ℓ = 9 (0.35)]
9. Nuts (battery) [d = 5 (0.20)]



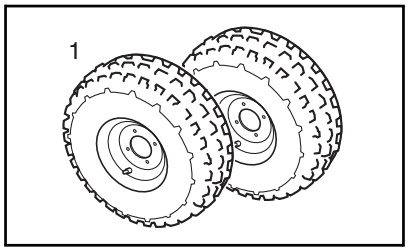
(3) Bubble wrap pack

1. Rear brake master cylinder
2. Bracket (rear brake master cylinder)
3. Flange bolts (rear brake master cylinder)
   [d = 6 (0.24), ℓ = 25(0.98)]



(4) Rear wheels

1. Rear wheels



(5) Front wheels

1. Front wheels

EBA00012

SETUP PROCEDURES

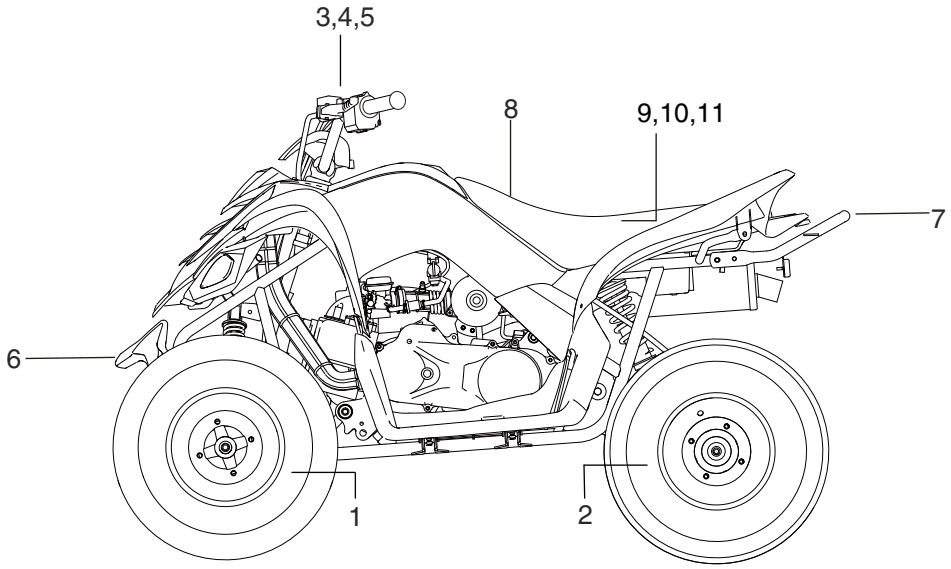
TIP

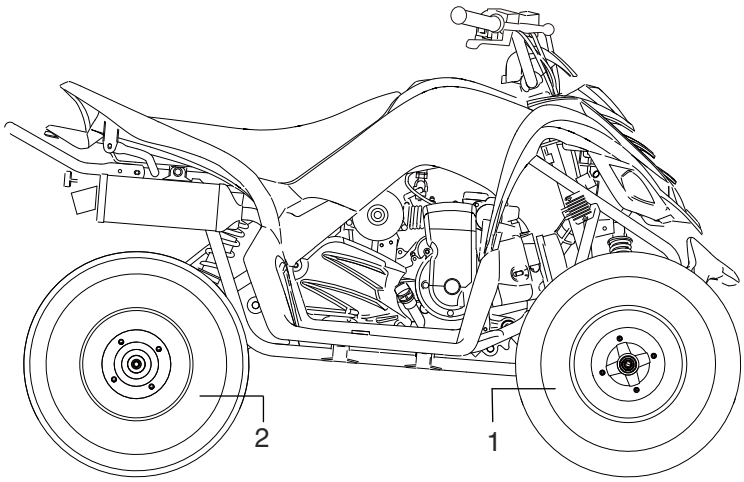
- After opening the crate, place the ATV on a suitable rack and follow the setup procedures.
- Before starting the setup, supply the specified tire pressure to the four wheels.

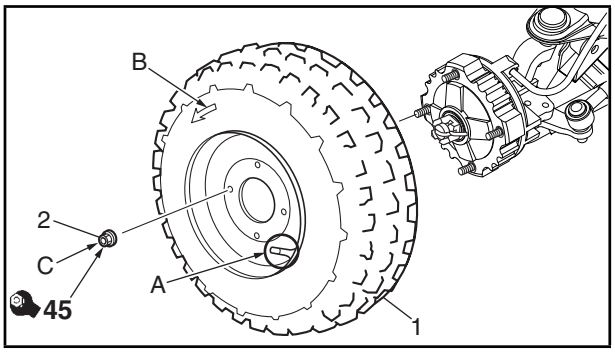
⚠ WARNING

This model is equipped with low pressure tires. Refer to "ADJUSTMENTS AND PREDELIVERY SERVICE".

Perform the setup procedures in the order indicated by the numbers. Always follow the order as shown.







1	Front wheel	2	(5)-S	
2	Flange nut	8	(1)-V	d = 10 (0.39)

EBA00033

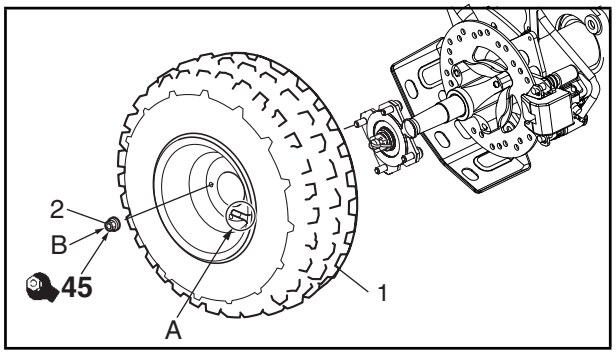
1. FRONT WHEELS

A: Install the wheels so that the air valves are facing out.

B: The arrow mark on the tire must point toward the rotating direction of the wheel.

C: Tighten the nuts to specification.

	Nut 45 Nm (4.5 m · kg, 32.5 ft · lb)



1	Rear wheel	2	(4)-S	
2	Flange nut	8	(1)-V	d = 10 (0.39)

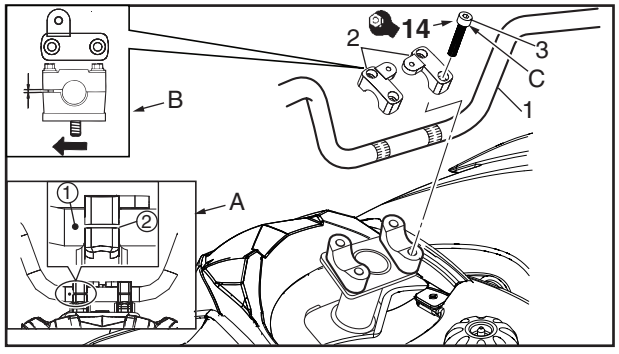
EBA00034

2. REAR WHEELS

A: Install the wheels so that the air valves are facing out.

B: Tighten the nuts to specification.

	Nut 45 Nm (4.5 m · kg, 32.5 ft · lb)



1	Handlebar	1	*	
2	Handlebar holder (upper)	2	*	
3	Flange bolt	4	*	d = 6 (0.24), ℓ = 25 (0.98)

EBA00013

3. HANDLEBAR

A: Install the handlebar, please align ① and ②.
① a punch mark on handlebar
② a gap at handlebar holder

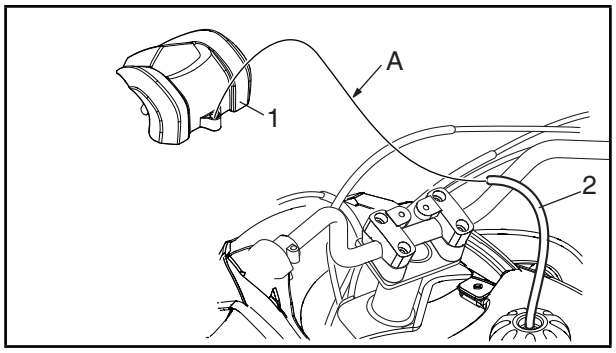
B: Install each handlebar holder with its flange facing forward.

NOTICE

First tighten the bolts on the rear side, and then tighten the bolts on the front side.

C: Tighten the bolts to specification.

	Bolt 14 Nm (1.4 m · kg, 10.1 ft · lb)



1	Handlebar cover	1	(2)-C	
2	Fuel tank breather hose	1	*	

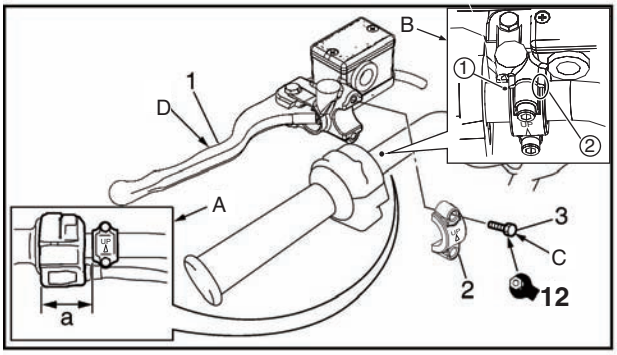
EBA00027

4. HANDLEBAR COVER

A: Pass the fuel tank breather hose through the hole in the handlebar cover.

TIP

Refer to “CABLE ROUTING”.



1	Rear brake master cylinder	1	(3)-S	
2	Bracket	1	(3)-S	
3	Flange bolt	2	(3)-S	d = 6 (0.24), ℓ = 25 (0.98)

5. REAR BRAKE MASTER CYLINDER

A: Fit the master cylinder projection into the collar indent.
(a) 65 ~ 66 mm (2.56 ~ 2.60 in)

B: Install the brake master cylinder, please align ① and ②.
①a punch mark on handlebar
②a gap at master cylinder bracket

C: Tighten the bolts to specification.

	Bolt 12 Nm (1.2 m · kg, 8.7 ft · lb)

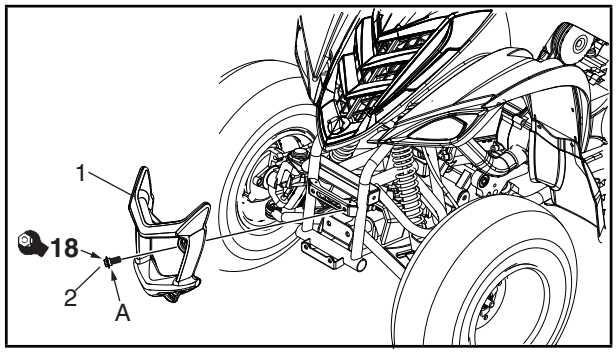
TIP

- Make sure that the “UP” mark on the bracket is pointed upwards.
- First tighten the bolt on the upper side of the master cylinder bracket, and then tighten the bolt on the lower side.

D: Check the brake lever for smooth action.

⚠ WARNING

Proper cable routing is essential to assure safe vehicle operation. Refer to “CABLE ROUTING”.



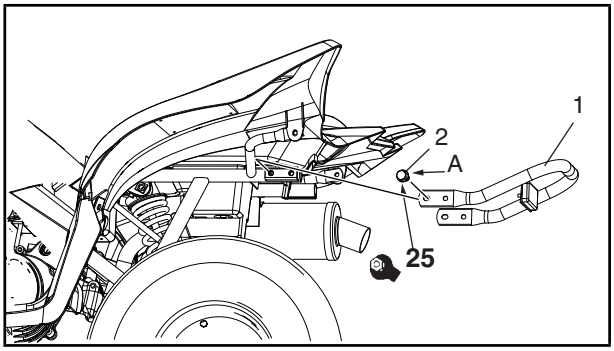
1	Front bumper	1	(1)-C	
2	Flange bolt	4	(1)-V	d = 8 (0.31) ℓ = 18 (0.71)

EBA00042

6. FRONT BUMPER

A: Tighten the bolts to specification.

	Bolt 18 Nm (1.8 m · kg, 13 ft · lb)



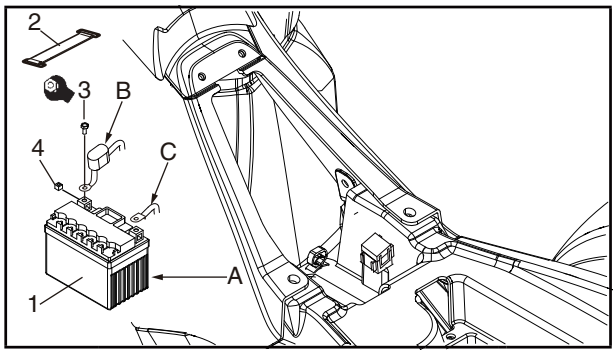
1	Rear carrier bar	1	(1)-C	
2	Flange bolt	4	(1)-V	d = 8 (0.31), ℓ = 12 (0.47)

EBA00042

7. REAR CARRIER BAR

A: Tighten the bolts to specification.

	Bolt 25 Nm (2.5 m · kg, 18.1 ft · lb)



1	Battery	1	(2)-C	
2	Battery band	1	(1)-V	
3	Bolt	2	(2)-V	d = 5 (0.20), ℓ = 9 (0.35)
4	Nut	2	(2)-V	d = 5 (0.20)

EBA00047

8. BATTERY

A: Before installing the battery, charge the battery.

TIP

Refer to “ADJUSTMENTS AND PREDELIVERY SERVICE”.

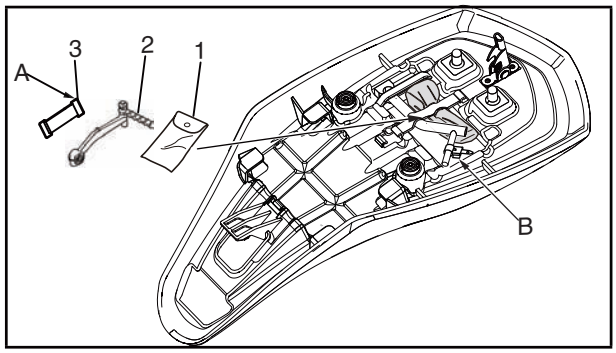
B: First, connect the positive lead (red color lead) to the positive terminal.

C: Connect the negative lead (black color lead) to the negative terminal.
Pass the negative lead (black color lead) through the clamp on the rear fender.

	Bolt 9 Nm (0.9 m · kg, 6.5 ft · lb)

TIP

Refer to “CABLE ROUTING”.



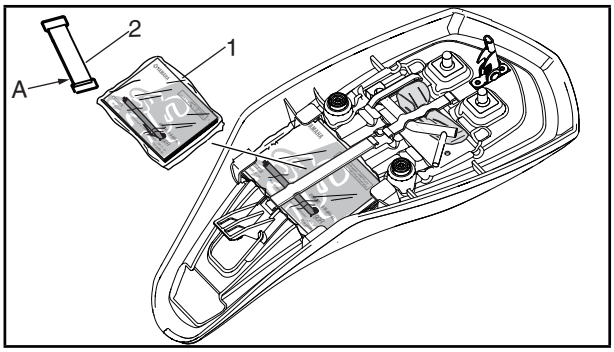
1	Owner’s tool kit	1	*	
2	kickstarter	1	*	
3	Band (owner’s tool kit)	1	*	

EBA00048

9. KICKSTARTER AND OWNER’S TOOL KIT

A: Secure the kickstarter and the owner’s tool kit to the seat with the band.

B: Fasten the kickstarter in the seat with the plastic band.

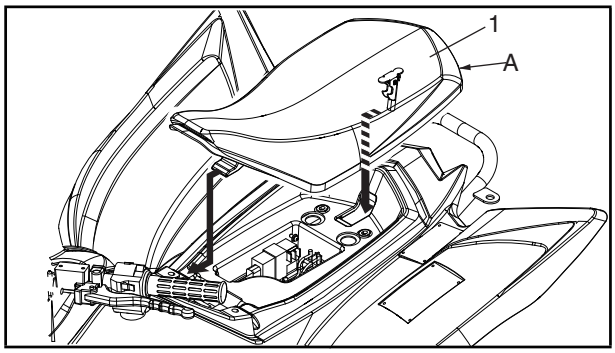


1	Owner's manual	1	*	
2	Band (owner's manual)	1	*	

EBA00049

10. OWNER'S MANUAL

A: Secure the low-pressure air gauge and the owner's manual to the seat with the band.



1	Seat	1	*	

EBA00050

11. SEAT

A: Insert the lobes on the seat front into the receptacles on the fuel tank and frame, then push down the seat at the end.

EBA00100

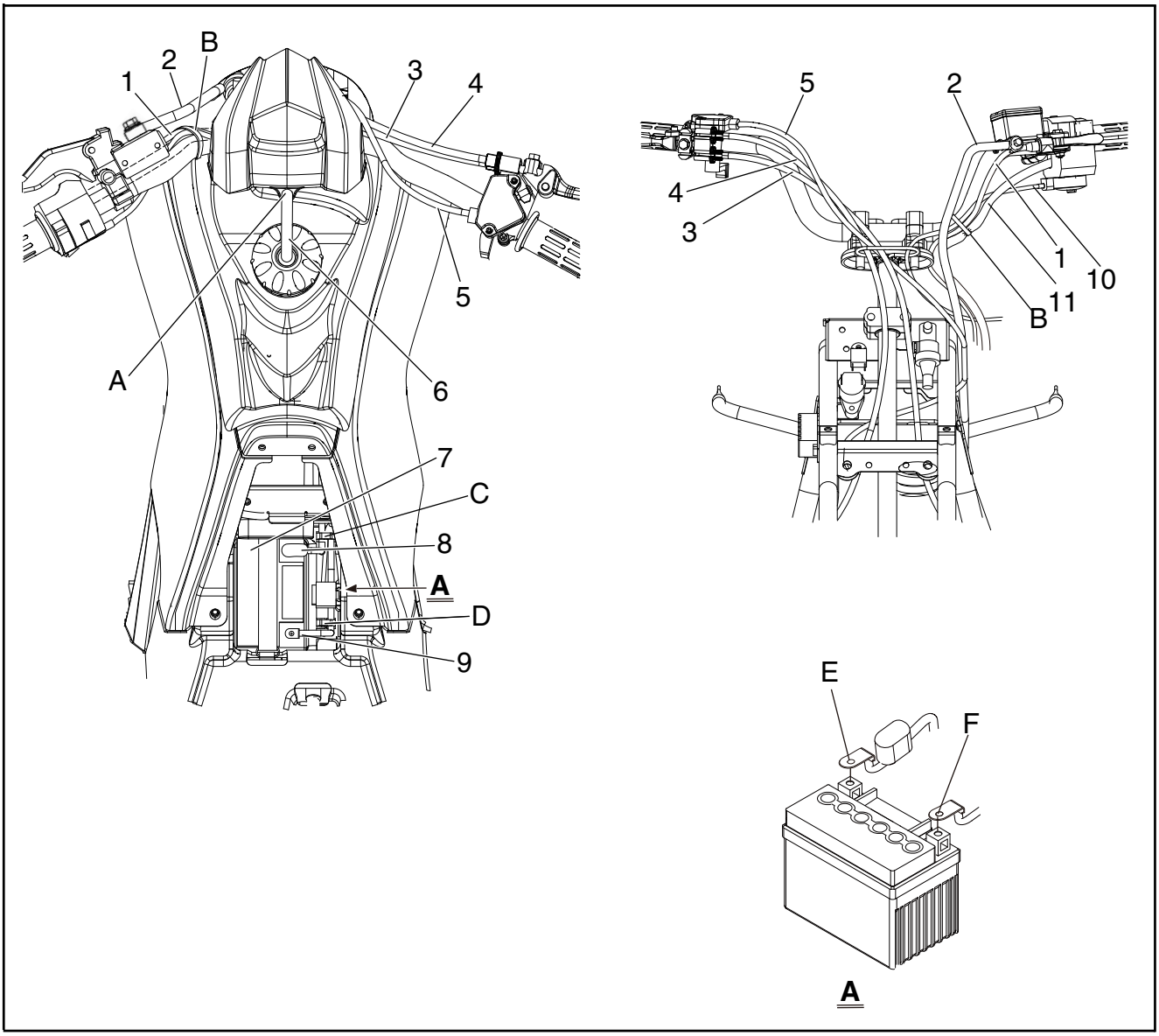
CABLE ROUTING

⚠ WARNING

Proper cable and lead routing is essential to assure safe machine operation.

(1) Rear brake switch lead
(2) Rear brake hose
(3) Left front brake cable
(4) Rightfront brake cable
(5) Throttle cable
(6) Fuel tank breather hose
(7) Battery
(8) Positive battery lead
(9) Negative battery lead
(10) Choke cable
(11) Handlebar switch lead

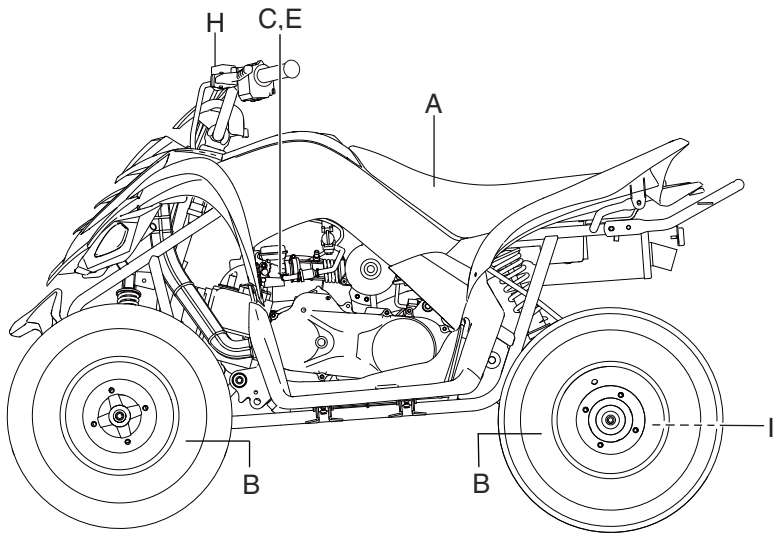
(A) Insert the fuel tank breather hose into the hole in the handlebar cover.
(B) Fasten the handlebar switch lead , rear brake switch lead and choke cable with a plastic band.
(C) Face the opening of the positive battery lead holder inward.
(D) Face the opening of the negative battery lead holder inward.
(E) Connect the negative battery lead to the battery so that the lead is routed to the side of the battery.
(F) Connect the positive battery lead to the battery so that the lead contacts the battery case.

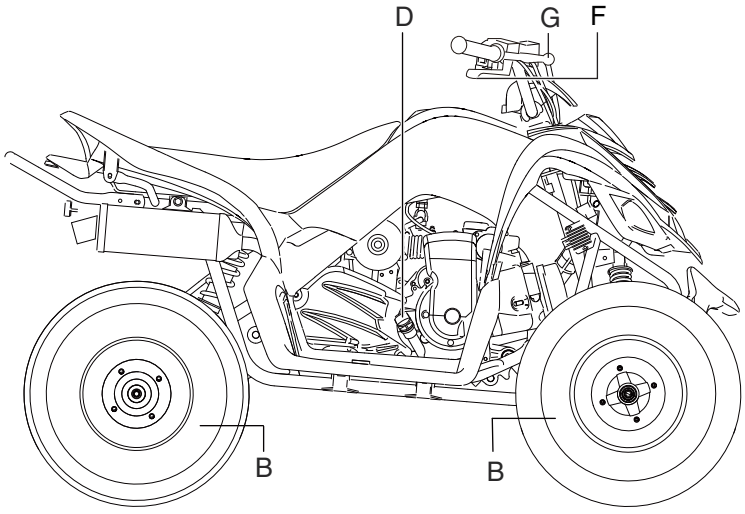


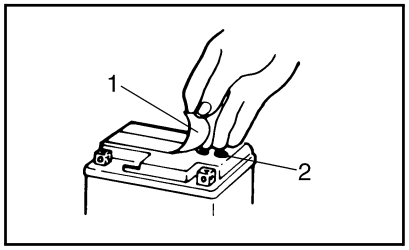
EBA00101

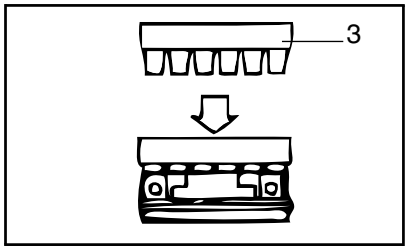
ADJUSTMENTS AND PREDELIVERY SERVICE

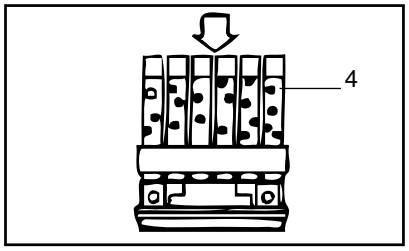
Perform the predelivery service in the order indicated by the letters.
Always follow the order as shown.

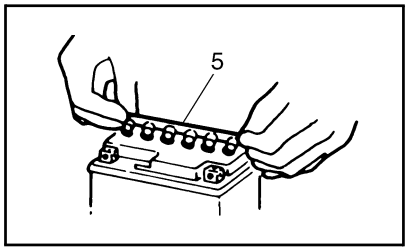












EBA00103

A. CHECKING AND CHARGING THE BATTERY

1. Fill:

NOTICE

• Never remove the sealing sheet (aluminum seal) from the battery until the battery is filled with electrolyte. If battery plates are exposed to air, they will oxidize. As a result, power will not be generated as specified.
• Use only the amount of electrolyte in the container which comes with the battery. An incorrect electrolyte level has an adverse effect on battery performance. The quantity of electrolyte varies with the type of the electrolyte container.
• Avoid using any electrolyte other than specified. The specific gravity of the MF battery electrolyte is 1.320 (20 °C). (The specific gravity of the general type battery electrolyte is 1.280.) If electrolyte whose specific gravity is less than 1.320 is used, the sulfuric acid will decrease and thus low battery performance will result. Should any electrolyte, whose specific gravity is more than 1.320 be used, the battery plates will corrode and battery life will shorten.

▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼

a. Place the battery on a level surface.
b. Remove the sealing sheet (1).
   (2) Filler port
c. Softly inlay the filling funnel (3) on the ports of the storage battery.
d. Take out the electrolyte container.
   (4) Six sealed areas of container

TIP

Do not lose the strip of caps because it will be used as battery plugs.

NOTICE

Do not peel or pierce the sealed areas.

e. Turn the electrolyte container upside-down with the six sealed areas in line with the six filler ports of the battery.
f. Push the container down with enough force to break the seals. The electrolyte will start to flow into the battery.

NOTICE

• Do not tilt the container as the electrolyte may stop flowing.
• Never remove the container from the battery until all electrolyte has drained from the container.

g. Leave the container in this position for 20 minutes or longer to allow proper chemical reaction.

TIP

• Make sure air bubbles are rising from all six filler ports.
• If air bubbles are not rising from a filler port, tap the top of the container a few times.

h. Make sure that all the electrolyte has been drained from the container.
i. Fit the strip of caps (battery plugs) securely into the filler ports. Make sure the top of the strip is flush with the top of the battery.
   (5)Press down with equal force with both hands.

NOTICE

Never remove the strip of caps, nor add any water or electrolyte.

⚠ WARNING

• Do not attempt boost charging under any circumstances.
• Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing.
Antidote:
External: Flush with water.
Internal: Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call physician immediately.
Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flames, cigarettes, etc., away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.
KEEP OUT OF THE REACH OF CHILDREN.

▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲

2. Check:
   Using a digital voltmeter, the state of a discharged MF battery can be checked by measuring open-circuit voltage (the voltage measured with the positive and negative terminals being disconnected).

NOTICE

The battery must charged after it is filled with electrolyte. If this is not done, the life of the battery will be shortened drastically. Since the procedure for charging the battery is not explained in the assembly manual, refer to the service manual for more details.

EBA00105

B. CHECKING THE TIRE PRESSURE

⚠ WARNING

This model is equipped with low pressure tires. Pay attention to the following points:
Recommended tire pressure:
Front: 25 kPa (0.25 kg/cm^2, 3.6 psi)
Rear: 25 kPa (0.25 kg/cm^2, 3.6 psi)
Maximum vehicle load: 70 kg (154 lb)
Tire size: Front AT18 × 7-8
Rear AT18 × 9-8

1. **Excessive tire pressure [over 250 kPa (2.5 kg/cm^2, 36 psi)] may cause the tires to burst. Inflate tires very slowly. Fast inflation can cause the tires to burst.**
2. **Too low a pressure [Front: 22 kPa (0.22 kg/cm^2, 3.2 psi), Rear: 22 kPa (0.22 kg/cm^2, 32 psi)] will cause the tire to dislodge from the rim.**
3. **Put the same pressure in both rear tires.**
   Uneven tire pressure will severely affect the handling.
4. **Set the tire pressures when the tires are cold.**

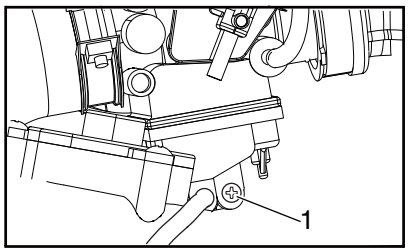
1. Check:
- tire pressure

a. Use an appropriate low-pressure tire gauge. Set tire pressures to the following specifications:

Reference tire pressure
Front
25kPa (0.25 kg/cm^2, 3.6 psi)
Rear
25 kPa (0.25 kg/cm^2, 3.6 psi)
Minimum tire pressure
Front
22 kPa (0.22 kg/cm^2, 3.2 psi)
Rear
22 kPa (0.22 kg/cm^2, 3.2 psi)

NOTICE

Never use a tire pressure below minimum specification. The tire could separate from the wheel under severe operating conditions.



EBA00106

C. DRAINING THE FUEL

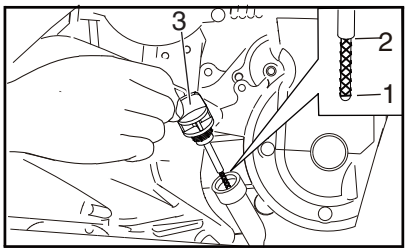
1. Put a rag under the carburetor drain hose so fuel does not contact the crankcase.
2. Loosen the drain screw (1) and drain the standing fuel.

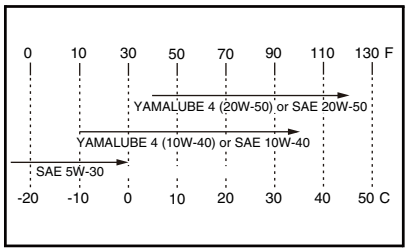
⚠ WARNING

FUEL IS HIGHLY FLAMMABLE:

- **Always turn off the engine when draining fuel.**
- **Take care not to spill any fuel on the engine or muffler when draining fuel.**
- **Never drain fuel while smoking or in the vicinity of an open flame.**

3. Tighten the drain screw securely.





EBA00107

D. CHECKING THE ENGINE OIL LEVEL

1. Place the machine on a level surface.
2. Check:

- engine oil level

  The engine oil level should be between the minimum level mark (1) and maximum level mark (2).

  Below the minimum level mark → Add the recommended engine oil to the proper level.

TIP

Do not screw the dipstick (3) in when checking the oil level.

NOTICE

Do not allow foreign material to enter the crankcase.

3. Start the engine, warm it up for several minutes, and then turn it off.
4. Check the engine oil level again.

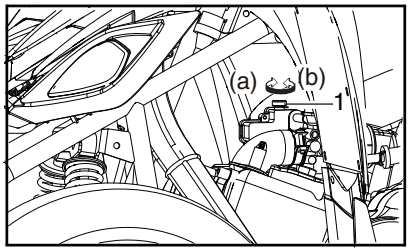
TIP

Before checking the engine oil level, wait a few minutes until the oil has settled.

Recommended engine oil
At 0 °C (32 °F) or higher
Yamalube 4 (20W-50) or SAE20W-50 type SG or higher, JASO standard MA
At –10 °C (14 °F) or higher
Yamalube 4 (10W-40) or SAE 10W-40 type SG or higher, JASO standard MA
At 0 °C (32 °F) or lower
SAE5W-30 type SG or higher JASO standard MA
Oil quantity (periodic oil change)
Engine
0.75 L (0.66 Imp qt, 0.80 US qt)

⚠ WARNING

Never remove the dipstick just after high speed operation because the heated oil could spurt out. Wait until the oil cools down before removing the dipstick.



EBA00121

E. ADJUSTING THE ENGINE IDLING SPEED

1. Start the engine and let it warm up for several minutes.
2. Check:
- engine idling speed
  Out of specification → Adjust.

	Engine idling speed 1,600 ~ 1,800 r/min

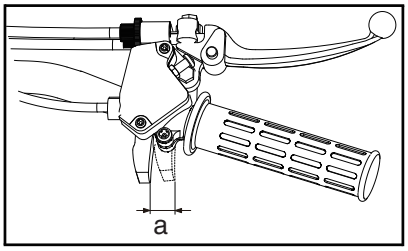
3. Adjust:
- engine idling speed

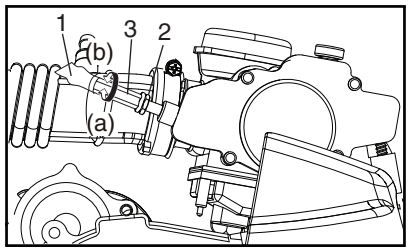
▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼

a. Turn the throttle stop screw (1) in or out until specified idling speed is obtained.

Direction(a)	Idling speed becomes higher.
Direction(b)	Idling speed becomes lower.

▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲





EBA00122

F. ADJUSTING THE THROTTLE LEVER FREE PLAY

NOTICE

Before adjusting the throttle lever free play, make sure that the adjuster and locknut on the carburetor side are fully tightened. If not, the throttle does not operate properly.

TIP

Engine idling speed should be adjusted properly before adjusting the throttle lever free play.

1. Check:
- throttle lever free play (a)
  Out of specification → Adjust.

	Throttle lever free play 1.0 ~ 3.0 mm (0.04 ~ 0.12 in)

2. Adjust:
- throttle lever free play

▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼

a. Pull back the adjuster cover (1).
b. Loosen the locknut (2).
c. Turn the adjuster (3) in or out until the correct free play is obtained.

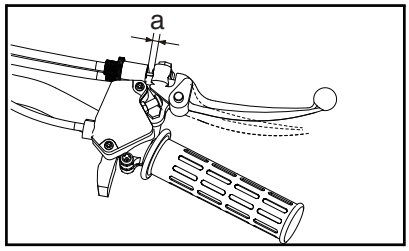
Direction(a)	Free play is increased.
Direction(b)	Free play is decreased.

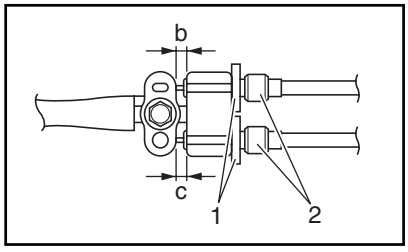
d. Tighten the locknut.
e. Push in the adjuster cover.

▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲

⚠ WARNING

After adjusting the free play, turn the handlebar to right and left, and make sure that the engine idling speed does not increase.





EBA00125

G. ADJUSTING THE FRONT BRAKE

1. Check:
- front brake lever free play (a)
- difference between (b) and (c)
  Out of either specification → Adjust.

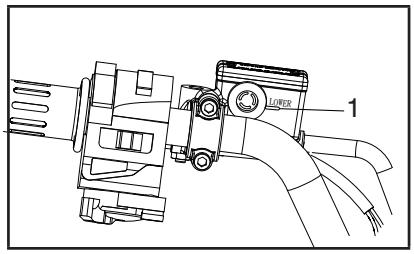
	Front brake lever free play (a) 4 ~ 7 mm (0.16 ~ 0.28 in) Difference between (b) and (c) 0 ~ 2 mm (0 ~ 0.08 in)

2. Adjust:
- front brake lever free play (a)
- difference between (b) and (c)

▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼

a. Loosen the locknuts (1).
b. Turn the adjusters (2) in or out until the specified free play and difference are obtained.
c. Tighten the locknuts.

▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲



EBA00131

H. CHECKING THE REAR BRAKE FLUID LEVEL

1. Place the vehicle on a level surface.

TIP

When checking the brake fluid level, make sure that the top of the brake fluid reservoir top is horizontal.

2. Check:
- brake fluid level
  Below the minimum level mark (1) → Add the recommended brake fluid to the proper level.

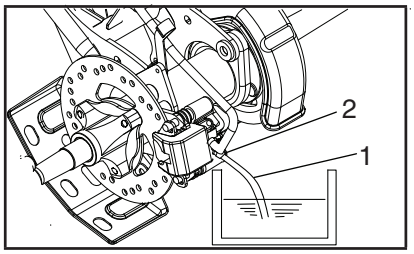
	Recommended brake fluid DOT4

⚠ WARNING

- **Use only the designated brake fluid. Other brake fluids may cause the rubber seals to deteriorate, causing leakage and poor brake performance.**
- **Refill with the same type of brake fluid that is already in the system. Mixing brake fluids may result in a harmful chemical reaction, leading to poor brake performance.**
- **When refilling, be careful that water does not enter the master cylinder and/or reservoir. Water will significantly lower the boiling point of the brake fluid and could cause vapor lock.**

NOTICE

Brake fluid may damage painted surfaces and plastic parts. Therefore, always clean up any split brake fluid immediately.



EBA00132

I. BLEEDING THE HYDRAULIC BRAKE SYSTEM

⚠ WARNING

Bleed the hydraulic brake system whenever:
- **the system was disassembled,**
- **a brake hose or brake pipe was loosened or removed,**
- **the brake fluid is very low,**
- **the brake operation is faulty.**

A loss of braking performance may occur if the brake system is not properly bled.

1. Bleed:
- hydraulic brake system

a. Add the recommended brake fluid to the proper level.
b. Install the diaphragm. Be careful not to spill any fluid or allow the reservoir to overflow.
c. Connect a clear plastic hose (1) tightly to the bleed screw (2).
d. Place the other end of the hose into a container.
e. Slowly apply the brake lever or pedal several times.
f. Pull the lever in or push down on the pedal and hold it.
g. Loosen the bleed screw and allow the lever or pedal to travel towards its limit.
h. Tighten the bleed screw when the lever or pedal limit has been reached, then release the lever or pedal.
i. Repeat steps (e) to (h) until all the air bubbles have disappeared from the fluid.
j. Tighten the bleed screw to specification.

	Bleed screw 6 Nm (0.6 m·kg, 4.3 ft·lb)

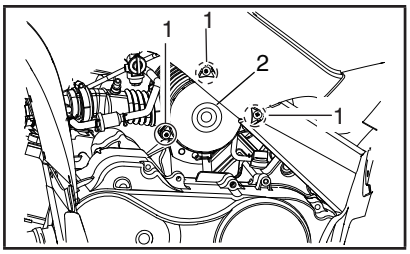
TIP

If bleeding is difficult, it may be necessary to let the brake fluid settle for a few hours. Repeat the bleeding procedure when the tiny bubbles in the system have disappeared.

k. Add brake fluid to the proper level.

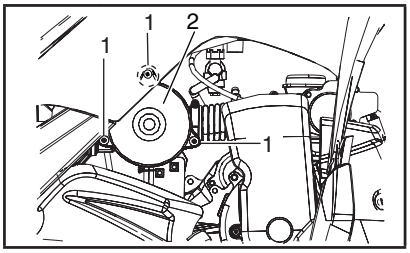
⚠ WARNING

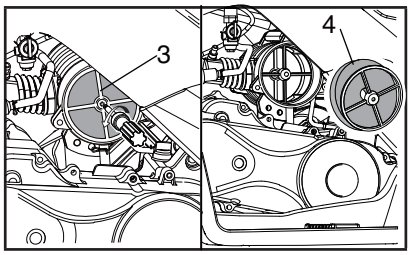
After bleeding the hydraulic brake system, check the brake operation.



J. LUBRICATING THE AIR FILTER ELEMENT

1. Remove:
- air filter case cover bolts (1)
- air filter case covers (2) (left and right)





2. Remove:
- screw and air filter element holder (3)
- air filter element (4)

NOTICE

The engine should never be run without the air filter; excessive piston and/or cylinder wear may result.

3. Apply:
- Yamaha foam air filter oil

a. Squeeze the initial oil out of the element.

NOTICE

Do not twist or wring out the element. This could damage the foam material.

b. Apply Yamaha foam air filter oil or other quality foam air filter oil.

c. Squeeze out the excess oil.

TIP

The element should be wet but not dripping.

▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲▲

4. Install:
- air filter element, air filter element holder and screw
- air filter case covers
- air filter case cover bolts

EBA00200

APPENDICES

SERVICE DATA

Engine idling speed:	1,600 ~ 1,800 r/min
Spark plug:	
Type/Manufacturer	CR7HSA/NGK
Gap	0.6 ~ 0.7 mm (0.024 ~ 0.028 in)
Fuel:	
Recommended fuel	Unleaded gasoline only
Fuel tank capacity	4.8 L (1.06 Imp gal, 1.27 US gal)
Valve clearance (cold):	
IN	0.07 mm (0.00275 in)
EX	0.07 mm (0.00275 in)

EBA00210

STANDARD EQUIPMENT

1. Owner's manual	1 pc.
2. Safety handbook	1 pc.
3. Owner's tool kit	1 pc.
4. Low-pressure air gauge	1 pc.
5. kickstarter	1 pc.

EBA00220

OWNER'S TOOL KIT

1. Owner's tool bag	1 pc.
2. Spark plug wrench (16)	1 pc.
3. Screwdriver grip	1 pc.
4. Screwdriver bit (Phillips head and slotted head)	1 pc.

EBA00230

TIGHTENING TORQUES

Part to be tightened	Thread size	Tightening torque		
		Nm	m · kg	ft · lb
Engine:				
Spark plug	M10	12	1.2	8.7
Engine oil drain bolt	M12	25	2.5	18.1
Final gear case oil drain bolt	M8	15	1.5	10.8
Chassis:				
Engine lower stay and engine	M10	35	3.5	25.3
Engine and frame	M10	35	3.5	25.3
Engine lower stay and frame	M10	35	3.5	25.3
Swingarm pivot shaft and frame	M14	75	7.5	54.2
Rear shock absorber and frame	M10	35	3.5	25.3
Rear shock absorber and swingarm	M10	35	3.5	25.3
Front shock absorber and frame	M10	35	3.5	25.3
Front shock absorber and lower front arm	M10	35	3.5	25.3
Steering stem and frame	M14	55	5.5	39.8
Steering stem and tie-rod ball joint	M10	35	3.5	25.3
Tie-rod locknut	M10	35	3.5	25.3
Steering stem bushing and frame	M8	25	2.5	18.1
Steering knuckle and tie-rod ball joint	M10	35	3.5	23.5
Steering knuckle and front arm (upper and lower)	M10	35	3.5	23.5
Steering knuckle and front brake drum	M14	65	6.5	47.0
Front wheel and front brake drum	M10	45	4.5	32.5
Front brake camshaft and camshaft lever	M6	14	1.4	10.1
Rear axle and rear axle nut	M28	Refer to TIP.		
Rear brake disc and disc bracket	M10	35	3.5	25.3
Rear brake caliper and brake caliper bracket	M8	28	2.8	20.3
Rear axle and wheel hub	M14	80	8.0	57.9
Rear wheel and wheel hub	M10	45	4.5	32.5
Handlebar holder and steering stem	M6	14	1.4	10.1
Throttle lever and housing	M6	12	1.2	8.7
Fuel tank and frame	M6	12	1.2	8.7
Front fender and frame	M6	9	0.9	6.5
Rear fender and frame	M6	9	0.9	6.5
Rear carrier and frame	M8	25	2.5	18.1
Front bumper and frame	M8	18	1.8	13.0
Footrest board and footrest bracket	M6	9	0.9	6.5
Footrest bracket and frame	M8	22	2.2	15.9
Front grill and dummy headlight	M6	9	0.9	6.5
Front grill and frame	M8	25	2.5	18.1
Driven sprocket and sprocket bracket	M10	35	3.5	25.3

TIP

1. Before tightening the nuts, apply locking agent (LOCTITE®) to rear axle threads.
2. Tighten the inside nut to 170 Nm (17.0 m · kg, 123 ft · lb)
3. Tighten the outside nut to 170 Nm (17.0 m · kg, 123 ft · lb) while holding the inside nut.

YAMAHA MOTOR CO., LTD.
2500 SHINGAI IWATA SHIZUOKA JAPAN

PRINTED IN U.S.A.